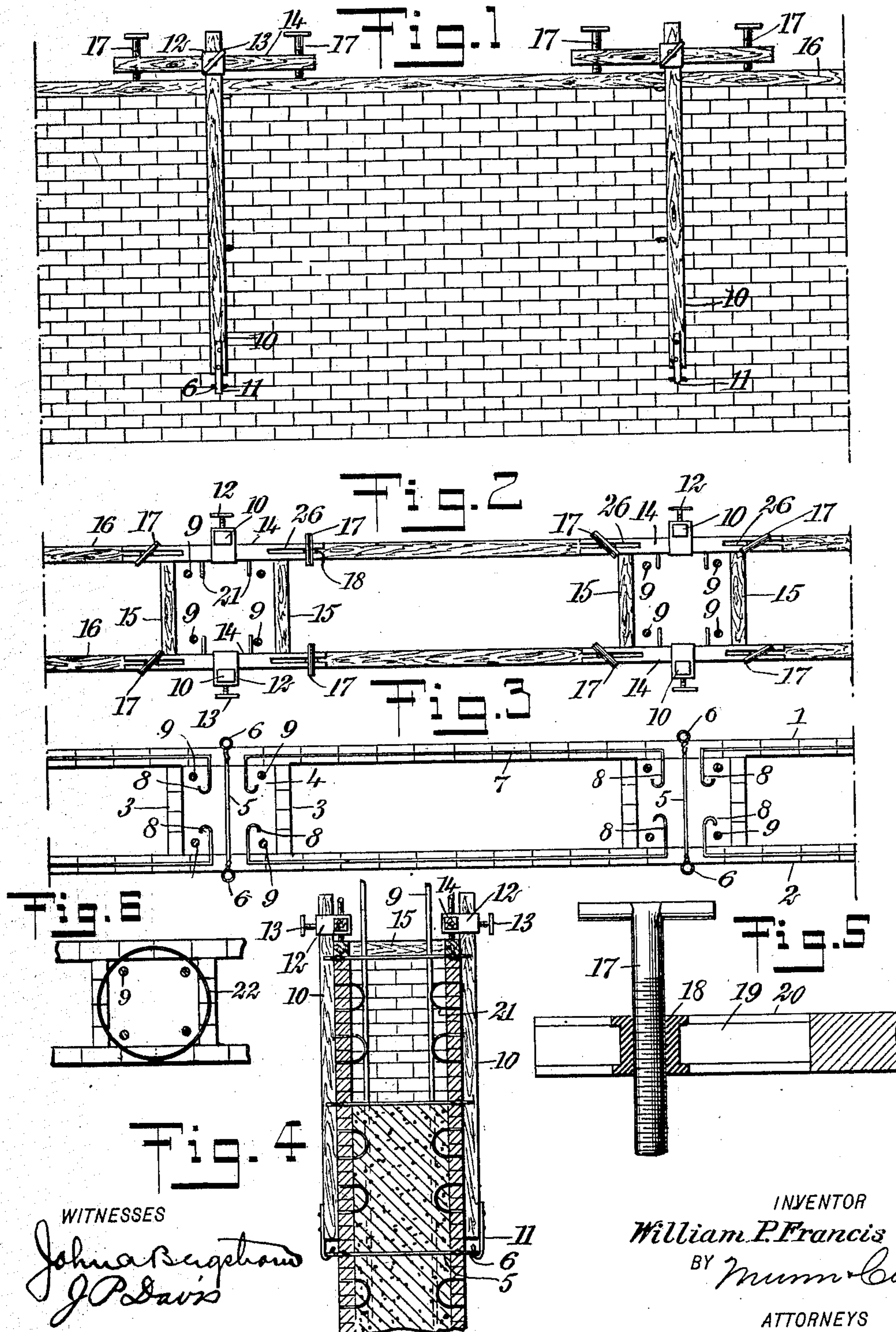


No. 860,364.

PATENTED JULY 16, 1907.

W. P. FRANCIS.
WALL STRUCTURE.
APPLICATION FILED JAN. 4, 1907.



WITNESSES

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WILLIAM PINCKNEY FRANCIS, OF PENSACOLA, FLORIDA.

WALL STRUCTURE.

No. 860,364.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed January 4, 1907. Serial No. 350,760.

To all whom it may concern:

Be it known that I, WILLIAM PINCKNEY FRANCIS, a citizen of the United States, and a resident of Pensacola, in the county of Escambia and State of Florida, have
5 invented a new and Improved Wall Structure, of which the following is a full, clear, and exact description.

This invention relates to improvements in wall structures for buildings or the like of a composite character,
10 that is, having inner and outer facing walls of brick, tiling, or other manufactured hard material, and a filling of concrete, the main object being to provide a simple means for clamping the facing or inner and outer walls from bulging out while tamping the concrete filling, thus providing a perfectly smooth wall.
15

I will describe a wall structure embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.
20

Figure 1 is an elevation of a portion of a wall and showing clamping devices embodying my invention;
25 Fig. 2 is a plan thereof; Fig. 3 is a plan with the clamping devices removed and illustrating tie rods as placed in position before the elevation of the facing walls is continued; Fig. 4 is a vertical section; Fig. 5 is a sectional detail showing one of the clamping screws employed, and Fig. 6 is a partial plan view, with parts in section, showing a hoop binder which may be employed.
30

Referring to the drawings, 1, 2 indicate the inner and outer or facing walls which are spaced apart and
35 built up of brick or similar material with mortar or other cement. At intervals there are spaced cross walls 3 which form pockets 4 for the concrete. Assuming the wall to have been built up to a short height, tie rods 5 are placed upon the facing walls and extend
40 across the pockets, these rods 5 having eyes 6 at the outer ends, the purpose of which will hereinafter appear. Longitudinally disposed tie rods 7 are placed on the top of the facing walls and inwardly turned hooked ends 8 thereof are projected into the pockets
45 so as to form ties to be embedded in the concrete. I may also employ within the pockets a plurality of vertical tie rods 9. The laying of the facing walls is now proceeded with until the walls reach a predetermined height, when the devices embodying my invention come
50 into play. The holding or clamping device consists of draw bars 10 having hooks 11 at the lower end for engaging in the eyes 6. The upper ends of the draw bars extend slidably through keepers 12 and are held as adjusted therein by means of set bolts 13. These
55 keepers are attached to opposite pressure bars 14, be-

ing connected by cross bars 15 which come directly over the walls 3. After placing wooden strips 16 on the upper sides of the facing walls, clamping screws 17 operating in blocks 18 carried by the pressure bars, are to be forced downward upon said wooden strips, 60 the draw bars, of course, engaging closely against the outer surfaces of the facing walls. The parts are to remain in this position until concrete is tamped in the pockets, and when the concrete becomes sufficiently set, the building up of the facing and cross 65 walls is continued to a predetermined height. Before this building, however, it is obvious that the clamping devices are not in connection with the wall. After building up this second section, the clamping devices are to be placed in position and the hooks 11 70 engaged with the eyes 6 placed in the wall above the first-named eyes, and this is to be continued until the wall shall have reached the desired height. Upon finishing a wall, the eyes 6 are to be cut off, leaving the ends of the rods 5 flush with the outer surfaces of 75 the walls.

With my invention the use of wooden molds is obviated, which must necessarily be used with walls consisting wholly of concrete or like material. The blocks 18 are adjustable or slidable on ribs 19 formed in the 80 inner sides of outwardly opening slots 20 on the ends of the pressure bars. Tie loops 21 extend from the walls into the pockets for receiving the concrete. In Fig. 6 is shown a hoop binder, which may be employed if deemed necessary or desirable. 85

It is to be understood that the clamping device may be used on the outer wall alone and be omitted from the inner wall, if found desirable in practice and according to the exigencies of the situation.

Having thus described my invention, I claim as new 90 and desire to secure by Letters Patent:

1. For use during the construction of a building wall having inner and outer facing walls consisting of brick or similar material and having cross walls forming the side walls of pockets for concrete, a clamping device consisting 95 of pressure bars extended along the facing walls, and at the inner and outer sides of the pockets, cross bars connecting opposite pressure bars and designed to pass over the wall pockets, clamping screws carried by said pressure bars, draw bars extended downward from said pressure bars and engaging with the outer side of the facing walls, and means for anchoring or securing the lower ends of said draw bars. 100

2. For use in the building of walls consisting of inner and outer facing walls spaced apart and transverse walls 105 in the space at suitable intervals, a clamping device consisting of pressure bars designed to engage over wooden strips placed on the top of the facing walls, opposite pressure bars being connected one with the other, screws carried by said pressure bars for engaging with said wooden strips, 110 eyes arranged in the surface walls, draw bars extended downward from the pressure bars, and hooks on the ends of the draw bars for engaging with said eyes.

3. For use in the construction of a building wall having

inner and outer facing walls spaced apart and tie rods arranged therein, of rods extended through the opposite facing walls and terminating in eyes at the outer sides of said facing walls, pressure bars designed for passing lengthwise over the top of the facing walls, clamping screws adjustable along said pressure bars, cross bars connecting opposite pressure bars, draw bars adjustable vertically with relation to the pressure bars and carried thereby, and hooks on the lower ends of said last-named bars for engaging with the eyes.

4. Means for retaining spaced walls in position during the introduction of concrete, comprising pressure bars for

engaging the tops of the respective walls, cross bars connecting the pressure bars, draw bars adjustably connected with the pressure bars and engaging the outer sides of the walls, and means for anchoring the lower ends of said draw bars.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM PINCKNEY FRANCIS.

Witnesses:

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